O. B. FORTNEY.

NON-REFILLABLE BOTTLE.

APPLICATION FILED DEC. 26, 1914.

1,166,755.

Patented Jan. 4, 1916.

Fig. 1.

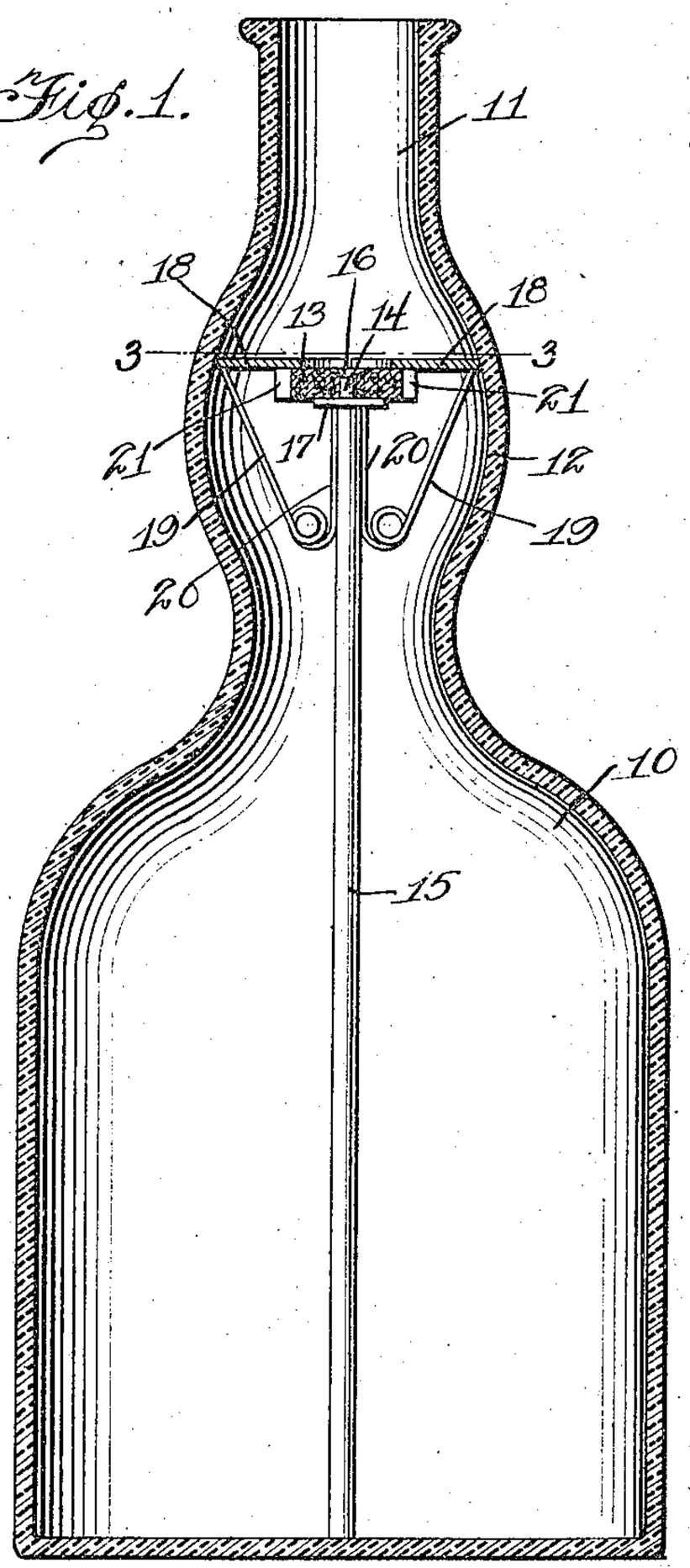


Fig. 2.

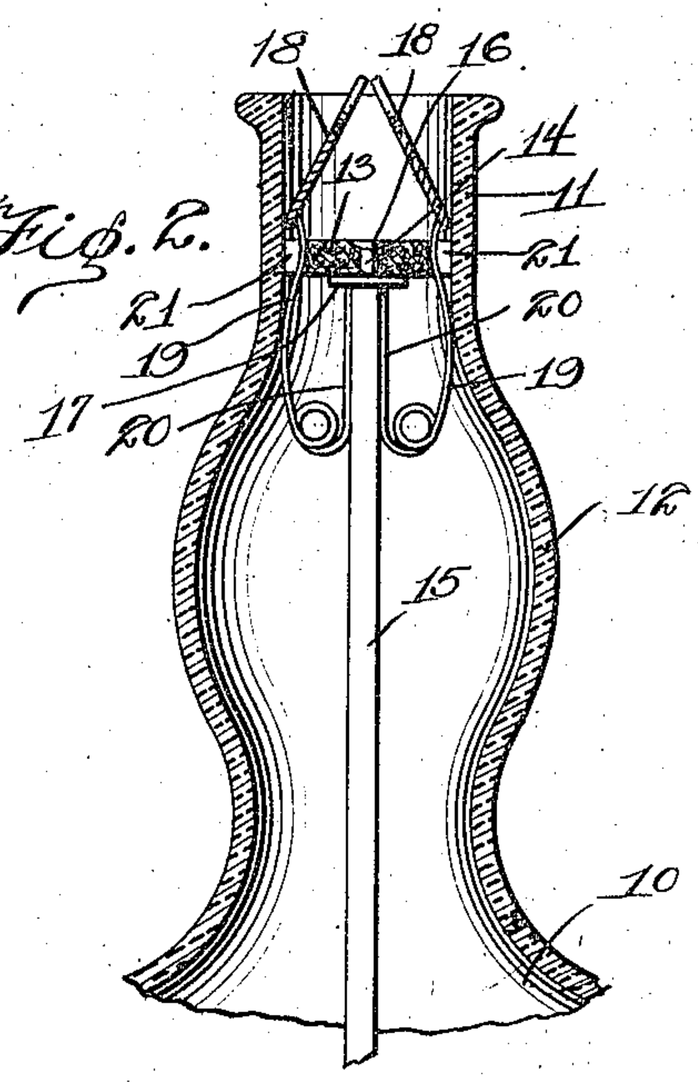


Fig. 3.

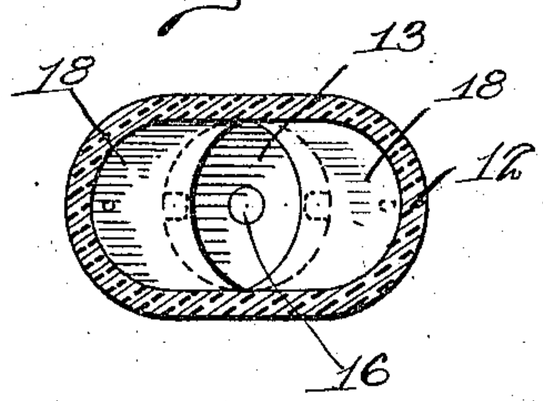


Fig. 4.

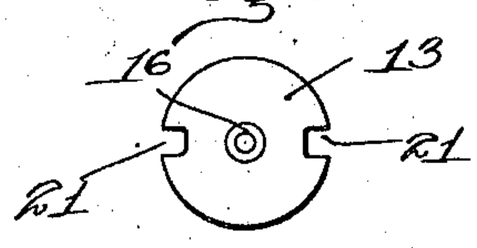
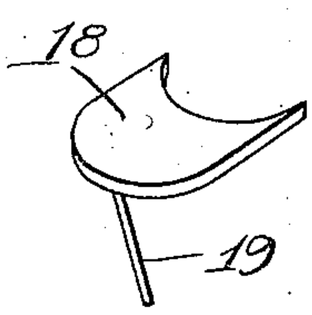


Fig. 5.



Witnesses

H. B. Mulligan

Thos. A. Woodward.

Inventor

Ovedia B. Fortney

By Richard B. Owen,

Attorney

UNITED STATES PATENT OFFICE.

OVEDIA B. FORTNEY, OF STRATFORD, WISCONSIN.

NON-REFILLABLE BOTTLE.

1,166,755. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed December 26, 1914. Serial No. 879,170.

To all whom it may concern:

Be it known that I, OVEDIA B. FORTNEY, a citizen of the United States, residing at Stratford, in the county of Marathon and State of Wisconsin, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to a non-refillable bottle of the breakable neck type and the principal object of the invention is to provide an improved type of closure for the bottle neck which is supported in the bottle neck at the proper height by a supporting rod engaging the bottom of the bottle and which is so constructed that it may expand while being pushed into the bottle neck and thus completely close the bottle neck and prevent leakage.

Another object of the invention is to so construct a closure that the expansible leaf may be held in an elevated position while the bottle is being filled and may then move to a position to engage a cork forming part of the closure when the closure is moved to a set position.

Another object of the invention is to provide a closure which will be very simple in construction and which will therefore be very cheap to manufacture and may be placed upon the market at a small cost.

Another object of the invention is to so construct the closure that it will be very durable and not liable to easily or quickly get out of order.

This invention is illustrated in the accompanying drawings wherein:—

Figure 1 is a view showing a bottle in vertical section with the improved closure in position to close the neck of the bottle and thus prevent the contents from passing out of the same. Fig. 2 is a fragmentary vertical sectional view of the neck of the bottle with the closure in the position to permit the bottle to be filled. Fig. 3 is a transverse sectional view taken along the line 3—3 of Fig. 1. Fig. 4 is a plan view of the cork which forms a part of this closure. Fig. 5 is a perspective view of one of the leaves which are supported by the springs shown in Figs. 1 and 2.

In the accompanying drawings the numeral 10 indicates a bottle which is provided with an outlet neck 11 having an enlargement 12 formed at a point adjacent its inner end. From an inspection of Fig. 3 it will be seen that in cross section this enlargement 12 is elongated and is provided with straight sides so that the closure may fit tightly in place and thus prevent the liquid in the bottle from passing out of the same when the closure is in a set position.

The disk-shaped cork 13 which forms part of this closure is placed upon the neck 14 of the rod 15 and is held thereon by having the outer end of the neck formed into a head 16 which clamps the cork disk 13 tightly against the collar 17. This disk 13 is of such size that it will readily pass through the neck 11 into the enlargement 12 and from an inspection of Fig. 3 it will be readily seen that when the cork is in the enlargement it will engage the sides thereof and form a tight closure.

The leaves or supplementary closures 18 are shaped as shown in Figs. 3 and 5 so that when the closure is in the set position shown in Figs. 1 and 3 the leaves will conform to the contour of the enlargement and will thus slide upon the cork disk 13. This will cause a tight closure thus preventing any danger whatever of the contents of the bottle leaking out pass the closure. These leaves 13 are carried by the free arm 19 of the springs 20, the inner arms of the springs 20 are secured to the collar 17 and from an inspection of Fig. 2 it will be readily seen that when the closure is in the position to permit the bottle to be filled the outer arms will be bent to extend through the cutout or notches 21 of the cork disk 13 and support the sleeves 18 at an upward incline.

When this bottle is in use and it is desired to fill the same for its initial sale the bottle is first filled with any liquid and the closure is then inserted. The rod will drop through the neck of the bottle and the leaves will then be moved toward each other until the closure has reached the position shown in Fig. 2 after which it will be forced through the neck of the bottle until the rod contacts with the bottom of the bottle. The closure will now be in the position shown in Fig. 1 with the arms 19 of the springs expanded and the leaves resting flat upon the cork disk. When in this position the bottle will be closed and the contents thereof cannot pass out. If desired a suitable stopper such as a cork may be placed in the outer end portion of the bottle neck as an additional security against leakage. It is of course understood that the rod and springs and also the leaves

will be made of some suitable metal which will not corrode or which will not affect the purity or strength of the liquid contained in the bottle. When it is desired to remove the contents of the bottle the neck will be broken at a point adjacent the leaves and the closure can then be removed. The contents of the bottle can now be poured out but it will be impossible to refill the bottle without it being known since the bottle neck will be broken and thus show that the bottle is not as originally received.

It is of course understood that this closure may be used with bottles having different shaped necks from that shown, the leaf being shaped to conform to the contour of the enlargement if the bottle neck is provided with an enlargement or leaf being of such size that the closure may be used with a bottle having a neck of the same diameter throughout its length if such is the case.

What is claimed is:—

1. A bottle provided with an outlet neck having an enlargement formed intermediate its length, a supporting rod extending through said bottle into the neck thereof, a disk secured to the outer end of said rod, springs positioned beneath said disk and having their inner arms secured to said rod and having their outer arms extending toward the sides of the bottle neck, and leaves secured to the free ends of the outer arms of said springs and resting upon the outer face of said disk when said closure is in set position.

2. A bottle having an outlet neck, a supporting rod extending through said bottle into said outlet neck, a disk secured to the outer end of said rod and having its periphery provided with oppositely disposed cutouts, springs including inner and outer arms, the inner arms being secured to said rod beneath said disk and the outer arms extending toward the side walls of the bottle neck and passing through the cutouts of said disk when said closure is in an inoperative position, and leaves secured to the outer ends of the outer arms of said springs and resting upon the outer face of said disk when said closure is in a set position.

3. A bottle provided with an outlet neck, a rod extending through said bottle and into said neck, a disk carried by said rod, springs carried by said rod, and leaves carried by said springs and resting upon said disk when said closure is in a closed position.

4. A closure of the character described comprising a supporting rod, a disk carried by said rod, springs including inner and outer arms, the inner arms being secured to said rod and the outer arms extending in diverging relation to the inner arms, and leaves carried by the free end portions of the outer arms of said spring and extending in overlapping relation to said disk.

5. A closure of the character described comprising a supporting rod having one end portion reduced to form a neck, a collar mounted upon said neck, a disk mounted upon said neck, the outer end portion of the neck being formed into a head to clamp the disk against said collar, springs carried by said rod, and leaves carried by said springs and extending in overlapping relation to said disk.

6. A closure of the character described comprising a supporting rod, a disk carried by said supporting rod, springs carried by said supporting rod, said disk being provided with cutouts through which said springs pass when said closure is in an inoperative position, and leaves carried by said springs and extending toward said disk.

7. A closure of the character described comprising a supporting rod, a disk carried by said rod, springs carried by said rod, and leaves carried by said springs and extending toward each other to overlap said disk.

In testimony whereof I affix my signature in presence of two witnesses.

OVEDIA B. FORTNEY.

Witnesses:

WALTER OBY,

F. P. ASCHENHIENER.